

**ATTACHMENT 6**

**ENVIRONMENTAL SITE REVIEW WITH ATTACHMENTS**

**TOWN OF MANCHESTER  
PLANNING AND ECONOMIC DEVELOPMENT DEPARTMENT**

**TO:** The Connecticut Siting Council

**FROM:** David Laiuppa, Environmental Planner / Wetland Agent

**DATE:** June 10, 2026

**RE:** Environmental Site Review for 1041 Main Street, Manchester, CT

**Introduction**

This Environmental Site Review assesses the proposed Battery Energy Storage System (“BESS”) at 1041 Main Street, Manchester, CT.

**Project Setting**

The proposed project is planned to be placed adjacent to a newly constructed municipal library facility in a developed setting.

**Environmental Conditions**

1 - Air Quality

No air emissions are generated during operation of the battery energy storage system (“facility”). Therefore, the operation of the facility will have no adverse effects on air quality. Temporary, potential, construction-related mobile source emissions will include those associated with construction vehicles and equipment. Any potential air quality impacts related to construction activities can be considered de minimis. Such emissions will be mitigated using available measures, including limiting: idling times of equipment; proper maintenance of all vehicles and equipment; and watering/spraying to minimize dust and particulate releases. In addition, all equipment, including off-road equipment, used on the property will meet the latest standards for diesel emissions, as prescribed by the United States Environmental Protection Agency.

2 - Wetlands & Watercourses

According to all records and site visits, conducted by the Town of Manchester’s (“Town”) Inland Wetlands Agent, there are no wetlands or watercourses located on the subject parcel (“property”) or within the established 100-foot upland review area of the parcel. There are no waterbodies directly connected or adjacent to this project site. Wetlands and watercourses mapping are appended hereto as Attachment 1.

### 3 - Floodplain Resources

A review of the United States Federal Emergency Management Agency (“FEMA”) Flood Insurance Rate Map (“FIRM”) for the property revealed that the parcel is in an area designated as Area of Minimal Flood Hazard – Zone X. The area of the Property is mapped on FIRM PANEL #09003C 0394F dated September 26, 2008. A FEMA map is appended hereto as Attachment 2.

No special design considerations or precautions related to flooding are required for the activities on the subject parcel. As no portion of the facility is proposed to be located in or impact either 100- or 500-year flood zones, no impacts are anticipated to floodways, floodplains, or downstream areas.

### 4 – Aquifer Protection Area

As mapped by Manchester’s Aquifer Protection Agency and the State of Connecticut’s Department of Energy and Environmental Protection’s Aquifer Protection Area Program, the subject parcel is not situated within an Aquifer Protection Area. *See* the stormwater narrative referenced below.

### 5 – Groundwater Quality

Groundwater underlying the property is classified by DEEP as “GB.” Class GB designated uses are industrial process water and cooling waters and baseflow for hydraulically connected waterbodies and is presumed not suitable for human consumption without treatment. *See* the stormwater narrative referenced below.

The facility will have no adverse environmental effect on ground water quality.

### 6 – Surface Water Quality

The property contains no surface water and, therefore has no surface water classification associated with it.

The property is located within the Hockanum River Regional Drainage Basin (#45), the South Fork of the Hockanum River Sub-regional Drainage Basin (#4504), Local Basin #4504-00, and Basin #4504-00-2-R1. *See* the stormwater narrative referenced below.

The Town designed the overall library project to address both short-term and long-term stormwater quality. Short term (during construction) water quality has been provided in the form of erosion control measures, and long-term (post construction) water quality has been provided through the use of primary and secondary treatment practices. Erosion control has been designed per the latest Connecticut Erosion Control Guidelines and long-term stormwater quality has been designed per the latest CT DEEP Stormwater Quality Manual.

## 7 – Core Forest

According to the 2015 Forest Fragmentation Dataset (mapped in partnership between CT DEEP and UConn CLEAR), there are no core forests (small, medium, or large) on the property. Core forest mapping is appended hereto as Attachment 3.

## 8 – Farmlands

There are no active farmlands on the property. Additionally, there are no Locally Important Farmland Soils, Prime Farmland Soils, or Statewide Important Farmland Soils on the property. Prime Farmland mapping is appended hereto as Attachment 4.

## 9 – Stormwater

The library project, including the facility, was designed utilizing the Town’s Zoning Regulations, the 2002 Connecticut Department of Transportation (“ConnDOT”) Drainage Manual for pipe sizing, the latest Connecticut Guidelines for Soil Erosion and Sediment Control, and the latest Connecticut Department of Energy and Environmental (“CT DEEP”) Water Quality Manual. A stormwater narrative concerning the overall library project is appended hereto as Attachment 5.

All flow from this site under existing and proposed conditions will eventually be collected by the Town’s drainage system in the surrounding streets.

## 10 – Soil Erosion and Sediment Controls

The Town has developed and implemented soil erosion and sediment controls for the overall library project, which encompasses the facility. The Town has designed these controls in accordance with local regulations, the Connecticut Guidelines for Soil Erosion and Sediment Control, and the requirements of the CT DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, as applicable. The proposed design considers the specific site characteristics of the site and anticipated construction activities. *See Attachment 5*.

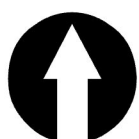
The proposed erosion and sedimentation controls consider the specific characteristics of the site and the anticipated construction activities. They have been designed in accordance with the latest CT DEEP Guidelines for Soil Erosion and Sediment Control as set forth in the attached stormwater report narrative.



# 1041 Main Street Manchester, CT

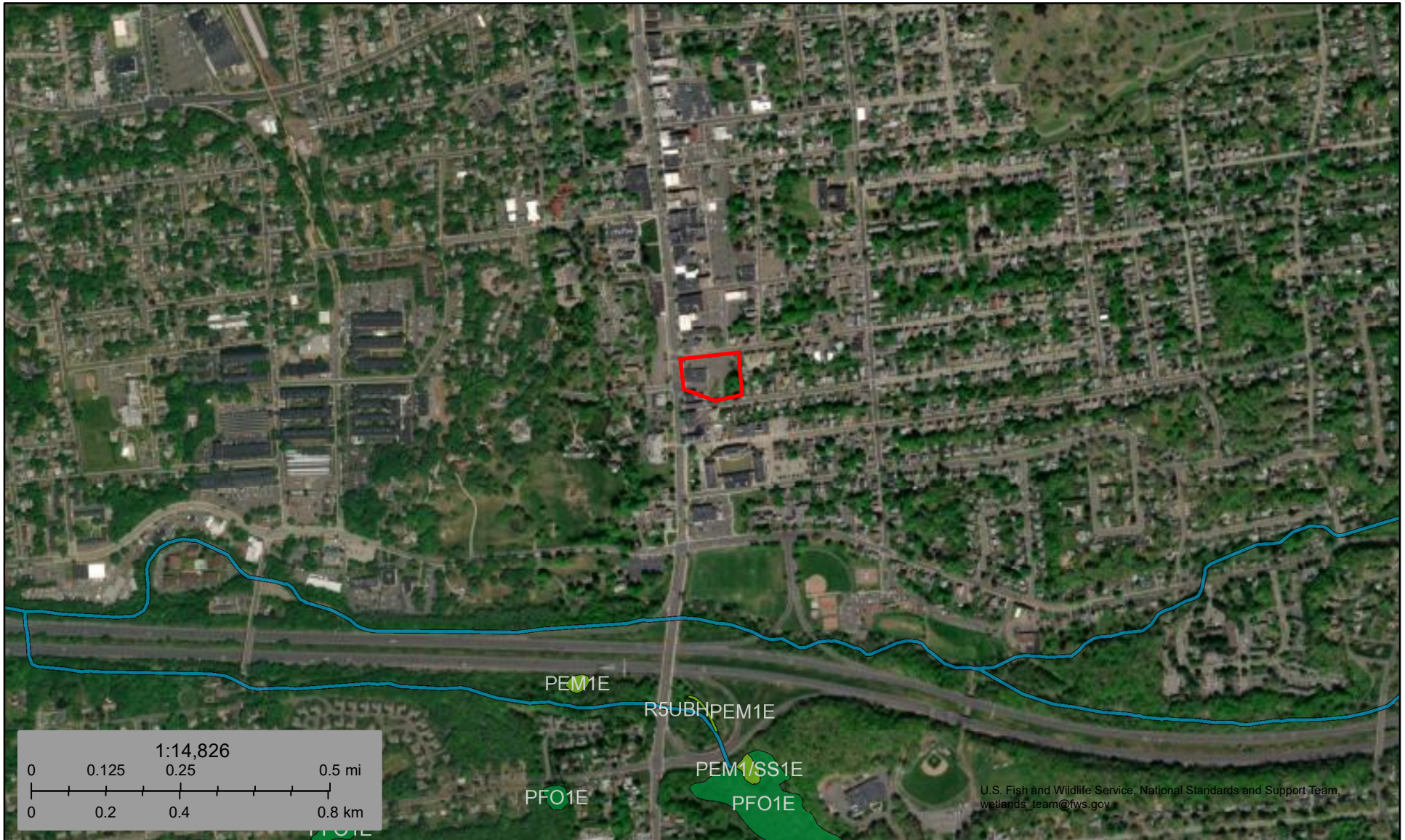
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 Wetlands  
 Surface Water



Town of Manchester  
Planning & Economic Development  
Revised March 2026





March 12, 2026

**Wetlands**

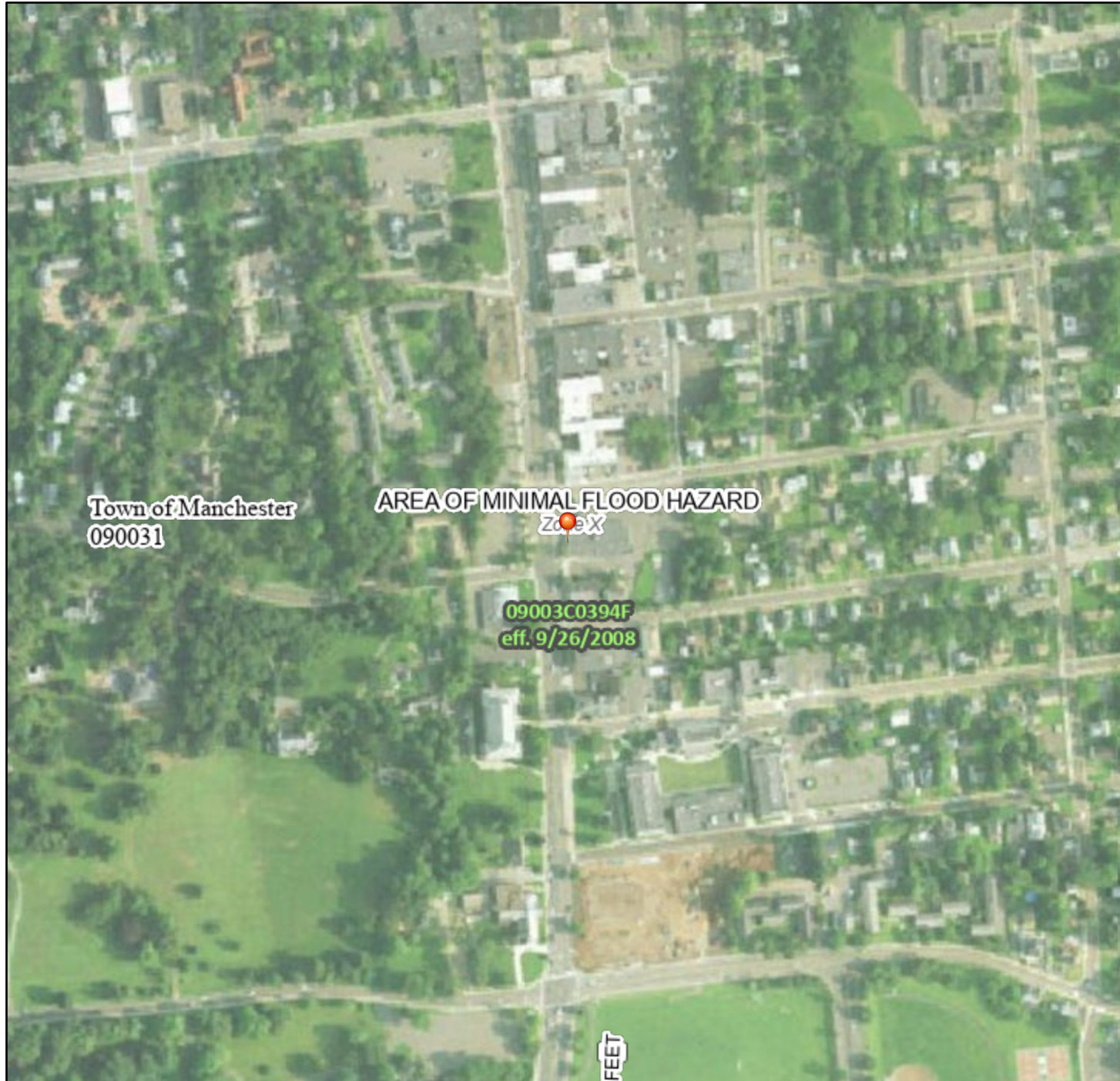
- |                                |                                   |          |
|--------------------------------|-----------------------------------|----------|
| Estuarine and Marine Deepwater | Freshwater Emergent Wetland       | Lake     |
| Estuarine and Marine Wetland   | Freshwater Forested/Shrub Wetland | Other    |
|                                | Freshwater Pond                   | Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

# National Flood Hazard Layer FIRMMette



72°31'32"W 41°46'17"N



## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance
		17.5 Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
MAP PANELS		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped
		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **3/12/2026 at 6:27 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

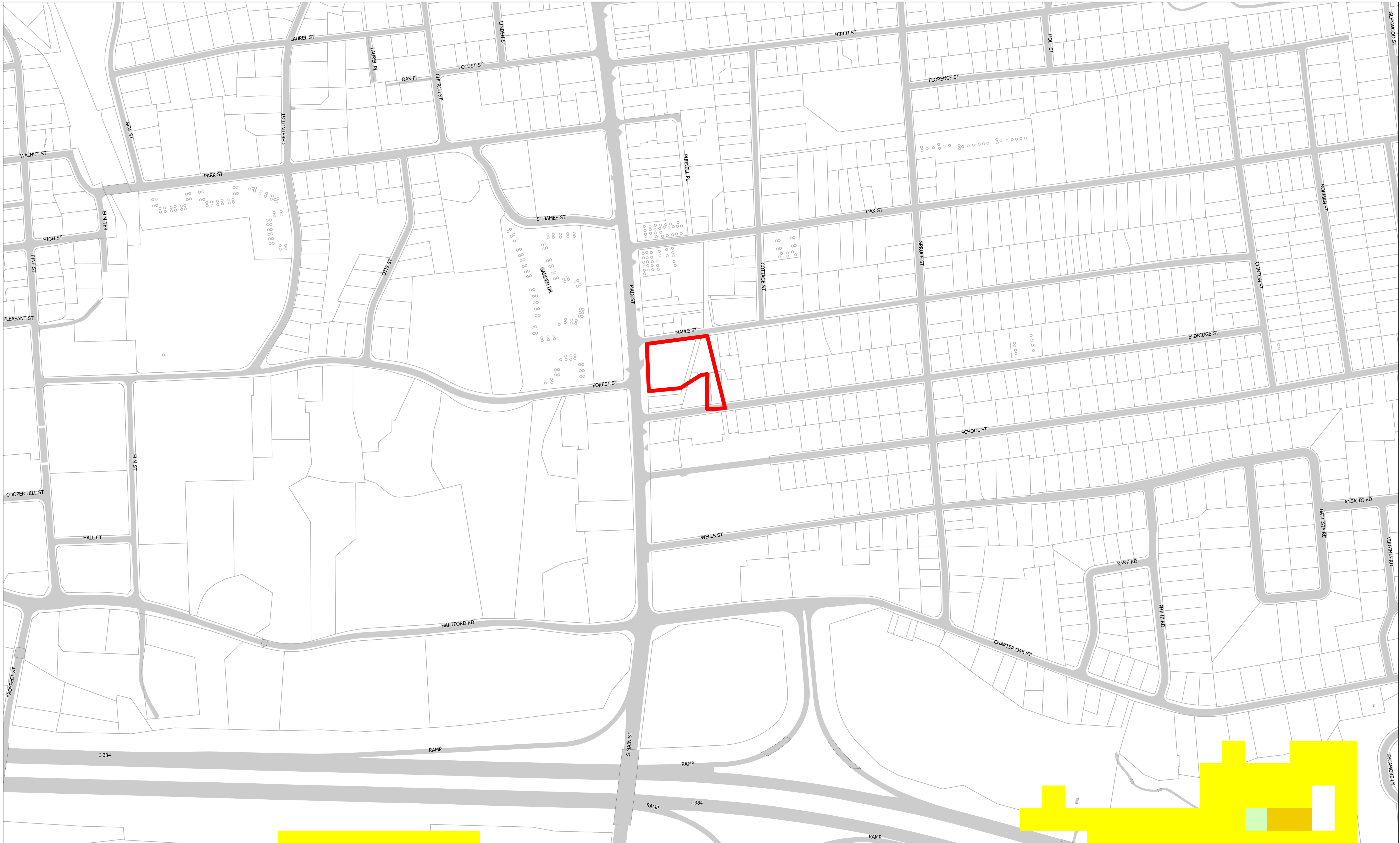
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

0 250 500 1,000 1,500 2,000 Feet

1:6,000

72°30'55"W 41°45'50"N

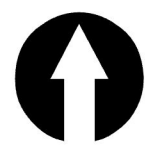
Basemap Imagery Source: USGS National Map 2023



# 1041 Main Street Manchester, CT

- Core Forest
- Edge Forest
- Perforated Forest
- Small Core Forest
- Medium Core Forest
- Large Core Forest

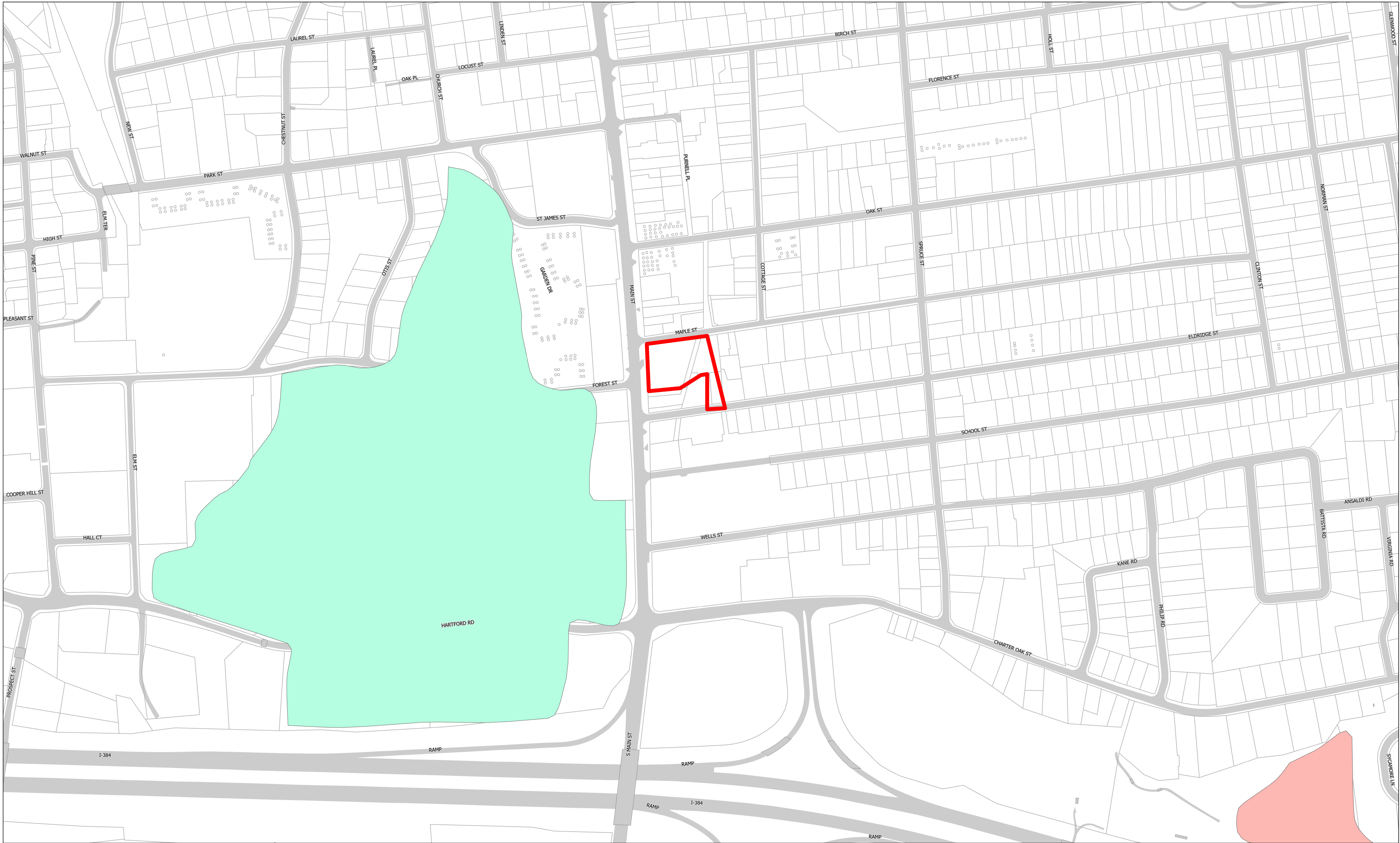
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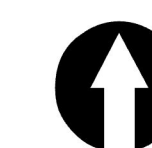
R:\Plan-GIS\1041 Main St\Environmental Screening.aprx.mxd



- Locally Important Farmland Soils
- Prime Farmland Soils
- Statewide Important Farmland Soils

## 1041 Main Street Manchester, CT

0    0.05    0.1    0.15    0.2    0.25 Miles



Town of Manchester  
Planning & Economic Development  
Revised March 2026



# Stormwater Management Report

Manchester Public Library

1040 Main Street, Manchester, CT

Prepared For:

**Town of Manchester**

41 Center Street  
Manchester, CT 06045

Prepared By:

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## TABLE OF CONTENTS

<b>1</b>	<b>INTRODUCTION.....</b>	<b>4</b>
1.1	General Information .....	4
1.2	Project Summary.....	6
1.3	Existing Site Conditions.....	6
1.3.1	<i>Topography</i> .....	6
1.3.2	<i>Soils</i> .....	6
1.3.3	<i>On-site and Adjacent Waterbody Information</i> .....	6
1.3.4	<i>Additional Site Considerations</i> .....	7
<b>2</b>	<b>HYDROLOGY .....</b>	<b>7</b>
2.1	Methodology.....	7
2.2	Existing Conditions.....	7
2.2.1	<i>Watershed Boundaries and Design Points</i> .....	7
2.3	Proposed Conditions.....	8
2.3.1	<i>Watershed Boundaries and Design Points</i> .....	8
2.4	Compliance with Performance Criteria.....	9
2.4.1	<i>Compliance with Local Criteria</i> .....	9
2.4.2	<i>Compliance with Connecticut Stormwater Quality Manual</i> .....	9
<b>3</b>	<b>HYDRAULICS.....</b>	<b>11</b>
3.1	Compliance with Performance Criteria.....	11
3.1.1	<i>Compliance with Local Criteria</i> .....	11
3.1.2	<i>Compliance with State Criteria</i> .....	11
<b>4</b>	<b>WATER QUALITY .....</b>	<b>11</b>
4.1	Methodology.....	11
4.2	Compliance with Performance Criteria.....	12
4.2.1	<i>Compliance with Local Criteria</i> .....	12
4.2.2	<i>Compliance with Connecticut Stormwater Quality Manual</i> .....	12
<b>5</b>	<b>SOIL EROSION AND SEDIMENT CONTROL.....</b>	<b>13</b>
5.1	Methodology.....	13
<b>6</b>	<b>OPERATION AND MAINTENANCE.....</b>	<b>14</b>
6.1	Inspection Frequency and Criteria .....	14



<b>APPENDIX A</b>	Existing Watershed Data	<b>23</b>
<b>APPENDIX B</b>	Proposed Watershed Data	<b>89</b>
<b>APPENDIX C</b>	Hydraulic Analysis	<b>201</b>
<b>APPENDIX D</b>	Water Quality Computations	<b>215</b>
<b>APPENDIX E</b>	NOAA Rainfall Data	
<b>APPENDIX F</b>	NRCS Soil Survey	
<b>APPENDIX G</b>	Grading & Drainage Plan	<b>273</b>

**PRE VS POST PEAK FLOW COMPARISON - P.15**





## **PROPOSED MANCHESTER PUBLIC LIBRARY**

*(HBM Architecture Rendered Image)*

**1041 Main Street (Route 83)**

**Manchester, CT 06040**



## 1 INTRODUCTION

### 1.1 General Information

The subject parcel addressed 1041 Main Street, Manchester, CT consists of approximately 1.61 acres and is located between the intersections of Main Street and Maple Street and Main Street and Eldridge Street. It is situated in the CBD (Central Business District) Zone and the subject parcels are denoted as and owned by:

- 1041 Main Street – Book 2889 / Page 158 – Webster Bank National Association
- 18 Maple Street – Book 1712 / Page 57 – Webster Bank National Association
- 22 Maple Street – Book 2889 / Page 158 – Webster Bank National Association
- 25 Eldridge Street – Book 4622 / Page 780 – Luacchino, Darrell J

The project proposed the demolition of the existing Webster Bank along with a full demolition of existing structures and site and the construction of the new Manchester Public Library (approximately 26,000 sf footprint). The proposed library will consist of the before mentioned building and the following site features and amenities:

- New Bituminous Pavement and Concrete Curbing
- New Concrete Walks and Patio Areas (with concrete pavers)
- A Drive Through Service Window
- Updated utilities and Storm Drainage system. (including detention)
- ADA Accessible parking and pedestrian routing
- Electric Vehicle Charging Stations
- Revised Site Landscaping
- Bike Racks
- Dumpster Enclosure and Refuse Area
- Battery Storage for Off Hour Power Storage and Backup (by others)
- Geo-Thermal Well Field (by others)

The existing site is comprised of a 12,000 sf +/- building, dilapidated bituminous pavement and concrete walks / pads, a drive-through canopy (with ATMs) and other related amenities. All of which are to be removed during the construction / rehabilitation of this site. In addition to the proposed above-ground work noted above, coordination regarding the demolition of the existing drainage culvert through the site is on-going between the design team and Town of Manchester. Coordination between the utility and communications service providers is also currently on-going regarding the removal of the overhead utility easement running through the site. The existing sanitary easement is to remain and be protected throughout the entirety of construction.



### **Site Location Map**

The project was designed utilizing the Town of Manchester Zoning Regulations, the 2002 Connecticut Department of Transportation (ConnDOT) Drainage Manual for pipe sizing, the latest Connecticut Guidelines for Soil Erosion and Sediment Control, and the latest Connecticut Department of Energy and Environmental (CT DEEP) Water Quality Manual.

## 1.2 Project Summary

This project proposed to:

- Construct a new Public Library for the Town of Manchester
- Provide relevant site improvements (parking / service window / bike racks)
- Provide adequate site drainage and water quality.
- Provide ADA accessibility and parking.
- Construct / Rehabilitate utility connections to the building and site.

The project will disturb approximately 1.61 acres, the entirety of the subject parcel as well as approximately 0.05 acres of ROW improvements, including sidewalk, driveway, and utility trenching restoration.

## 1.3 Existing Site Conditions

### 1.3.1 Topography

The project site slopes generally from northwest to southeast, with flow being directed to a single drainage structure directly into the existing 3' x 10' drainage culvert running north to south through the site. Currently the southeast portion of the site diverts flow to neighboring properties to the east and west with minimal flow along the eastern edge, on the northeast portion of the site, being diverted to the neighboring residential property. Essentially all flow from the site will enter the municipal drainage system and flow to the existing culvert, diverted south into Hop Brook. The existing site elevations (NAVD 88) range from approximately 226 ft at the northeastern property corner to 221 located at the southeastern property corner.

### 1.3.2 Soils

NRCS soils mapping indicates 2 soil types located within the project limits; defined as:

- 307 – Urban Land – Hydrologic Soil Group D
- 237A – Manchester, Urban Land Complex – Hydrologic Soil Group A

### 1.3.3 On-site and Adjacent Waterbody Information

There are no waterbodies directly connected or adjacent to this project site. All flow from this site under existing and proposed conditions will eventually be collected by the town's drainage system in the surrounding streets and be conveyed into Hop Brook. The Hop Brook is considered an impaired waterbody for the habitat of fish and other aquatic life and wildlife. It has not been accessed or evaluated and is not classified for drinking water use. This site is not located within an aquifer protection area, per Manchester, CT Map (December 23, 2021)

### 1.3.4 Additional Site Considerations

- The site is currently serviced by gravity sewer connections and domestic water service.
- A majority of existing soils have limiting exfiltration characteristics, though the southeast corner is located in a Hydrologic Soil Group A, and described as loamy sand.
- The site is not located within a Natural Diversity Database Area, per Manchester, CT Map, (June 2024)

## 2 HYDROLOGY

### 2.1 Methodology

The analysis to determine peak flows generated from the site was prepared using TR-55 procedures for calculating peak rates of runoff resulting from precipitation events and procedures for developing runoff hydrographs. HydroCAD software was utilized to perform hydrologic computations. Rainfall Frequency Estimates for precipitation frequency, based on National Oceanic and Atmospheric Administration (NOAA) data from 1041 Main Street, Manchester, CT, were utilized to generate the flows. The following 24-hour, precipitation estimates were utilized:

2-Year	3.10 inches
10-Year	4.87 inches
25-Year	5.97 inches
50-Year	6.78 inches
100-Year	7.66 inches

Design Storm Type: NOAA, 24-hour Type D

Project Type: Demolition and New Construction

### 2.2 Existing Conditions

#### 2.2.1 Watershed Boundaries and Design Points.

Drainage from the existing site is contained within one (1) watershed for analysis.

- **Watershed E1 (Flow to Dry Brook Culvert):** This watershed consists of the majority of the subject property. All flow under existing conditions consists of sheet flow either into the municipal storm sewer system or directly into a single round catch basin located on site, which ties directly into the Dry Brook Culvert. This watershed is currently comprised of dilapidated bituminous pavement, an existing bank building, drive-through, and some small areas of

overgrown landscaping. The entirety of Watershed E1 is Hydrologic Soil Group D except for a small portion on the southeast corner is Hydrologic Soil Group A.

- **Watershed E2 (Flow Offsite East):** This watershed consists of a mostly wooded area with light underbrush located along the eastern portion of the site and on the southeastern parcel. All flow under the existing conditions consists of sheet flow to the east to a residential property. Except for the eastern sliver of land, the entirety of this watershed is Hydrologic Soil Group A, the remainder being type D.
- **Watershed E3 (Flow to Eldridge Street):** This watershed consists entirely of wooded area with light underbrush located at the southeast corner of the site. All flow under existing conditions consists of sheet flow to Eldridge Street and consists of Hydrologic Soil Group A.

Existing Watershed Data (Existing Cover Characteristics, Existing Watershed Area Map, and Hydrologic Computations) have been included in Appendix A.

## 2.3 Proposed Conditions

### 2.3.1 Watershed Boundaries and Design Points

This project proposes to provide water quality in the form of water quality flow, utilizing a proprietary treatment unit (hydrodynamic separator). Peak flow reduction is achieved in the form of maintaining similar levels of impervious cover and providing storage and infiltration by utilizing a drywell and 36" HDPE pipe wrapped in a envelope of 1/2" to 3/4" Stone and filter fabric (all located in the Hydrologic Soil Group A). Drainage from the proposed site consists of four (4) watersheds for analysis.

- **Watershed P1-1 (Flow to Dry Brook Culvert):** This watershed consists of a similar layout to the existing Watershed E1, but incorporates additional area from E2 and E3 to provide reduction in peak stormwater discharge. All flow entering the municipal storm system will consist of sheet flow and concentrated pipe flow. This flow will either be piped directly into the remaining portion of the Dry Brook Culvert located on the south of the site or directly into the municipal storm sewer system located in Maple Street. The proposed conditions of this watershed will consist of the new Manchester Public Library building, a majority of the drive aisles and parking areas, all concrete walks on site, and other related amenities and landscaping. This watershed proposes no detention or infiltration as part of the system design.
- **Watershed P1-2 (Flow to Drywell & Underground):** This watershed consists of the southeast portion of the site and includes all sheet flow that will enter the proposed drywell and connecting 36" HDPE pipe with envelope of stone and filter fabric. This watershed consists of mostly paved drive aisles and parking stalls. All flow from this system will enter the tail end of watershed P1-1 and is accounted for the hydrologic and hydraulic analyses.

- **Watershed P2 (Flow Offsite East):** This watershed consists of a small strip of proposed grass and landscaping along the eastern portion of the site. This will all be sheets flow and should mimic the drainage patterns of the existing watershed E2.
- **Watershed P3 (Flow to Eldridge Street):** This watershed consists of a very small grass area and is the remaining sheet flowing in the direction of Eldridge Street, where it will be picked up by the municipal storm sewer, similar to the drainage pattern for existing watershed E3.

Proposed Watershed Data (Proposed Cover Characteristics, Proposed Watershed Area Map, and Hydrologic Computations) have been included in Appendix B.

## 2.4 Compliance with Performance Criteria

### 2.4.1 Compliance with Local Criteria

This project has been designed per the Town of Manchester's Stormwater Management Regulations. Furthermore, water quality measures have been provided for the proposed development, where no such measures are in place today.

### 2.4.2 Compliance with Connecticut Stormwater Quality Manual

#### 2.4.2.1 Standard 1 – Runoff Volume Reduction

The method of analysis for this stormwater management system is providing site specific peak runoff volume reduction for the 2, 10, 25, 50, or 100-year Type NOAA, 24-hr Type D storm.

Low impact development practices have been implemented throughout this stormwater management design utilizing a series of treatment practices to remove temporarily suspended solids from the discharge location. Under existing conditions there are no structural stormwater appurtenances, this includes anything regarding the treatment of site discharge. The proposed site will greatly reduce or remove the possibility of the watercourse impairment being generated by this property. LID practices that are being used on this site to improve the quality of discharged stormwater include:

- Water Quality Unit / Hydrodynamic Separator – This structure is designed to treat low and high flows by capturing oils, temporarily suspended solids, and debris.
- Deep Sump Catch Basin – These structures are located upstream of the water quality treatment unit and will act as pre-treatment, removing larger debris and floatables prior to entering the separator. This will allow reduced maintenance of the treatment unit and easier routine maintenance of the storm drainage system.

## Peak Flow Comparison

Peak flows at the off-site analysis point are as follows:

Watershed	Storm Event (NOAA Type D)	Discharge Existing (cfs)	Discharge Proposed (cfs)	Δ (%)
1-Flow to Dry Brook Culvert	2-year	4.40	3.90	11%
	10-year	6.96	6.36	9%
	25-year	8.55	7.87	8%
	50-year	9.71	9.39	3%
	100-year	10.98	10.82	1%
2-Offsite East	2-year	0.00	0.01	-
	10-year	0.01	0.05	-
	25-year	0.05	0.08	-
	50-year	0.10	0.10	0%
	100-year	0.16	0.13	19%
3-Flow to Eldridge Street	2-year	0.00	0.00	-
	10-year	0.00	0.00	-
	25-year	0.01	0.00	60%
	50-year	0.02	0.00	100%
	100-year	0.05	0.00	100%
Total Site	2-year	4.40	3.91	11%
	10-year	6.96	6.41	8%
	25-year	8.60	7.94	8%
	50-year	9.83	9.49	3%
	100-year	11.18	10.95	2%

*As shown, total site peak flows will be reduced under proposed conditions for all design storms. A small increase is present in watershed 2 during smaller design storms, this due to an existing cover consisting of wooded area whereas under proposed conditions there is no accurate way to account for landscaped areas.*

### 2.4.2.2 Standard 2 – Stormwater Runoff Quantity Control

See Peak Flow Comparison above.

### 3 HYDRAULICS

The intent of the hydraulic analysis is to ensure that proposed on-site drainage facilities are designed to accommodate and safely convey runoff produced up to and including the 10-year storm event. Additionally, we have compiled and included a hydraulic analysis of the 25-year storm event, which shows this design is sufficient under larger storm events than required.

#### 3.1 Compliance with Performance Criteria

The site has been designed with a series of structural drainage facilities, including five (5) catch basins, seven (7) concrete area drains, one (1) drywell, one (1) curtain drain, three (3) manholes, one (1) water quality structure, and one (1) outlet control structure. This drainage system has been designed to remove stormwater from all driving surfaces and diverting it through the water quality unit, all most flow from walking surfaces and landscaped areas will be diverted directly to the outlet without structural water quality treatment. **The drainage system has been designed to safely convey flows up to and including the 25-year design storm event.** The proposed pipes are designed with sufficient capacity to maintain the hydraulic grade line below proposed grade except for at one structure, CLCB 1-1, which if ever over capacity, all flow will be discharged to the municipal storm system down-gradient in Maple Street.

##### 3.1.1 Compliance with Local Criteria

The proposed storm sewer system has been designed in compliance with Town of Manchester Drainage Regulations.

##### 3.1.2 Compliance with State Criteria

The proposed storm sewer system has been designed in compliance with the State of Connecticut's Drainage Regulations per the 2002 ConnDOT Drainage Manual. (latest revisions)

Computations for the hydraulic analysis can be viewed in Appendix C.

### 4 WATER QUALITY

#### 4.1 Methodology

The project has been designed to address both short-term and long-term stormwater quality. Short term (during construction) water quality has been provided in the form of erosion control measures and long-term (post construction) water quality has been provided through the use of primary and secondary treatment practices. Erosion control has been designed per the latest Connecticut Erosion Control Guidelines and long-term stormwater quality has been designed per the latest CT DEEP Stormwater Quality Manual.

## 4.2 Compliance with Performance Criteria

### 4.2.1 Compliance with Local Criteria

We have provided water quality for the entire proposed drainage network in the form of water quality flow utilizing a hydrodynamic separator and propose a Hydroworks HydroDome HG4.

### 4.2.2 Compliance with Connecticut Stormwater Quality Manual

#### 4.2.2.1 Standard 1 – Pollutant Reduction

##### **Long Term Stormwater Quality**

The project was designed with guidance from the latest Connecticut Stormwater Quality Manual. The intent of the design is to provide a “stormwater treatment train,” where stormwater quality is achieved through a series of treatment measures. Harmful pollutants, such as sediment, pathogens, organic material, hydrocarbons, metals, synthetic organic chemicals, and/or deicing compounds are typically carried by the low-flow storms. Many of these pollutants are associated with vehicular operation and therefore key areas of on-site treatment include parking lots and access drives. **Additionally, rooftops are a concern as a result of atmospheric ambient accumulation.** Since pollutants typically attach themselves to solid particles, treatment practices are designed to remove suspended solids.

The treatment train for this site includes:

- Source Control and Pollution Prevention
- Drive and parking lot sweeping
- Storm drainage system maintenance

##### Primary Treatment Practices

- Proprietary Water Quality Treatment Unit (Hydrodynamic Separator): This structure is designed to treat low and high flows by capturing oils, temporarily suspended solids, and debris. The proposed water quality structure has been sized to provide water quality for the 1.3” water-quality storm with sufficient by-pass for a 25-year storm.
- Deep Sump Catch Basin: This structure is functioning as a pre-treatment device to alleviate some function of the proprietary water quality treatment unit.

Computations for Water Quality can be viewed in Appendix D.

## 5 SOIL EROSION AND SEDIMENT CONTROL

### 5.1 Methodology

The proposed soil erosion and sediment controls have been designed in accordance with local regulations, the Connecticut Guidelines for Soil Erosion and Sediment Control, and the requirements of the CTDEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, as applicable. The proposed design considers the specific site characteristics of the site and anticipated construction activities. See the plan set for location and design of proposed short term soil erosion and sediment control measures to be used throughout construction.

#### **Short Term Erosion Control**

The proposed erosion and sedimentation controls consider the specific characteristics of the site and the anticipated construction activities. They have been designed in accordance with the latest CT DEEP Guidelines for Soil Erosion and Sediment Control.

#### **Construction Entrances**

Construction entrances will be utilized to remove sediment from construction vehicle tires and prevent it from being tracked onto adjoining paved roadway areas.

#### **Erosion Control Barriers**

Prior to any construction activity, hay bales, silt fence, or combination hay bale/silt fence barriers will be placed at the downgradient limits of construction and adjacent to the wetlands. Throughout construction, additional barriers will be installed as necessary at the toe of slopes equal to or in excess of 15 feet. These barriers will be inspected once every seven calendar days and within 24 hours after every rainfall generating a discharge and replaced as necessary. Collected silt will be removed when one-half the barrier height is reached.

#### **Temporary Seeding**

Temporary Seeding will be utilized on portions where the phasing and sequencing require an initial disturbance followed by an extended period of inactivity that is greater than 30 days but less than 1 year. Temporary seeding will be conducted within 7 days after the suspension of grading work in disturbed areas where the suspension of work is expected to be more than 30 days but less than 1 year.

#### **Soil Stabilization- Mulches**

Structural (non-living) soil stabilization will be utilized to protect the soil surface on a temporary basis without the intention of promoting plant growth. When grading of the disturbed area will

be suspended for a period of 30 or more consecutive days, but less than 5 months, disturbed areas will be stabilized within 7 days of the suspension of grading through the use of mulch, non-bituminous tackifiers, erosion control netting, or other approved materials appropriate for use as a temporary soil protector. For surfaces that are not to be reworked within 5 months but will be reworked within 1 year, use temporary seeding, seeding-type mulch (hay, straw, or cellulose fiber) or when slopes are less than 3:1, wood chips, bark chips or shredded bark.

### **Temporary Filter Inserts**

Temporary Filter Inserts will be placed in each existing catch basin and yard drains prior to the start of construction, and in each new catch basin or yard drain during construction. These devices will be removed upon final site stabilization. Filter inserts will be inspected once every seven (7) calendar days and within 24 hours after every rainfall generating a discharge. Replacement of the inserts will be as often as necessary to maintain function of the drainage structure and prevent excessive ponding due to clogged fabric. Ripped or otherwise damaged inserts will be replaced immediately.

### **Stockpile Management**

The topsoil stockpiles which will be idle for at least 30 days will be stabilized with temporary seed and mulch no later than 7 days from the last use. Small stockpiles may be covered with impervious tarps or erosion control matting in lieu of seeding and mulching.

A geotextile silt fence or hay bale barrier will be installed around the stockpile area approximately 10 feet from the proposed toe of the slope.

## **6 OPERATION AND MAINTENANCE**

### **6.1 Inspection Frequency and Criteria**

Maintenance and operation will be provided as follows.

#### **During Construction**

- **Dust Control:** Moisten disturbed soil areas with water periodically, or use a non-asphaltic soil tackifier to minimize dust.
- **Temporary Soil Protection:** Inspect seeded areas weekly and within 24 hours after a storm generating a discharge.
- **Catch Basin Filter Inserts:** Inspect the fabric at least once a week and within 24 hours after the end of a storm generating a discharge. Check the fabric for structural soundness

- (i.e. tears), proper anchoring/alignment within the grate and ability to drain runoff (i.e. percent of clogging by sediment). Remove the sediment every week, or sooner if ponding is excessive. Each time the sediment is removed, replace the section of fabric removed with a new section. Do not remove the sediment and reuse the same section of fabric.
- **Hay Bale/ Silt Fence Barrier:** Inspect the barrier at least once a week and within 24 hours after the end of a storm generating a discharge. For dewatering operations, inspect frequently before, during and after pumping operations. Remove the sediment deposits when the depth reaches one half the barrier's height. Repair or replace a barrier within 24 hours of observed failure. Maintain the barrier until the contributing disturbed area is stabilized.
  - **Construction Entrance/Exit Pad:** Maintain the pad in a condition that will prevent tracking and washing of sediment onto paved surfaces. Place additional clean gravel on top of gravel that has become silted, or remove the silted gravel and replace the gravel to the depth removed with clean gravel, as conditions warrant. Remove immediately all sediment spilled, dropped, washed or tracked onto paved surfaces. Roads adjacent to the construction site shall be cleaned at the end of each day by hand sweeping or sweeper truck.
  - **Existing Catch Basins and Sumps:** Inspect the filter baskets as specified above. After final removal of the filter baskets at the end of construction, clean the sump of all silt and debris.
  - **New Catch Basins and Sumps:** As new catch basins are constructed, a sediment trap shall be installed in the unit and a sediment barrier installed around the grate. Inspect the trap and barrier weekly and within 24 hours after a storm generating a discharge. After stabilization of the drainage area entering the catch basin, remove the trap and barrier and clean the basin sump of all silt and debris.
  - **Temporary Stockpiles:** Inspect temporary stockpiles at the end of each workday to ensure that tarps are in place and secured. Temporary stockpiles that are expected to be inactive for more than 30 days should be temporarily seeded (see above).

### After Construction

- **Propriety Water Quality Treatment Unit (Hydrodynamic Separator):** Maintain per manufacturer's recommendations. See Appendix D Water Quality Computations for additional information regarding maintenance of the proposed structure.

- **Parking Lot and Site Cleanup:** Inspect on a regular basis not to exceed weekly for litter and debris.
- **Parking Lot and Driveway Sweeping:** At least twice a year, with the first occurring as soon as possible after snowmelt and the second not less than 90 days following the first.
- **Catch Basins and Sumps:** Maintenance includes removal of trash from the grate and the sump, as well as sediment from the sump. They shall be inspected semi-annually and cleaned when the sump is one half full of sediment. One of the inspections shall be after the snow and ice removal season is over, and prior to the spring rainfall events. If the sumps is filled more than half-filled with sediment at the semi-annual inspections, they shall be inspected quarterly.
- **Landscaped Areas:** Inspect semi-annually for erosion or dying vegetation. Repair and stabilize any bare or eroded areas and replace vegetation as soon as possible.